

**REMARKS**

This Amendment, submitted in response to the Office Action dated November 25, 2003, is believed to be fully responsive to each point of rejection raised therein. Accordingly, favorable reconsideration on the merits is respectfully requested.

Claims 1, 2, 4, 6 and 17-29 are pending in the present application. Claim 22 has been objected to but would be allowed if rewritten in independent form.

Claims 1, 4, 18, 19, 21, 23, and 26-28 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Hsieh in view of applicants' statement of the prior art for the reasons of record. Claims 1, 19, 29, 26-28 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Suzuki et al in view of applicants' statement of the prior art for the reasons of record. Claims 2 and 6 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Hsieh in view of applicants' statement of the prior art and Yamaguchi et al. for the reasons of record. Claim 2 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over Suzuki in view of applicants' statement of the prior art and Yamaguchi for the reasons of record.

In addition, claims 1, 4, 17-21 and 23-29 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Imamura (U.S.P. 5,935,902). Finally, claims 2 and 6 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Imamura in view of Yamaguchi et al. Applicant submits the following in traversal of the rejections.

***Rejection of claims 1, 4, 18, 19, 21, 23, and 26-28 under § 103(a) as being unpatentable over Hsieh in view of applicants' statement of the prior art, Rejection of claims 1, 19, 29, 26-28 under § 103(a) as being unpatentable over Suzuki in view of applicants' statement of the prior art, Rejection of claims 2 and 6 under § 103(a) as being unpatentable over Hsieh in view of applicants' statement of the prior art and Yamaguchi and Rejection of claim 2 under § 103(a) as being unpatentable over Suzuki in view of applicants' statement of the prior art and Yamaguchi***

As an initial matter, the Examiner has not particularly responded to each of Applicant's arguments raised in the Amendment filed August 7, 2003. Therefore, Applicant respectfully requests that the Examiner respond to each of Applicant's arguments in order to enhance the clarity of the prosecution history record. MPEP 707.07(f).

### **Claim 1**

The Examiner states that use of a conventional LTHC for its concomitant function in the thermal transfer sheet of Hsieh or Suzuki would have been an obvious expedient to one of ordinary skill in the art in the absence of unexpected results.

The Examiner's reasoning is unclear. In particular, a showing of unexpected results is an argument used by an Applicant, in order to rebut a *prima facie* case of obviousness. MPEP 2144.09. At the present time, the Examiner has failed to establish a *prima facie* case of obviousness, therefore the Applicant does not have to show unexpected results.

In order to establish a *prima facie* case of obviousness, first, the Examiner must show a suggestion or motivation to modify or combine the teachings of the prior art. Second, there must be a reasonable expectation of success. Third, the prior art references, alone or in combination, must teach or suggest all the claim limitations. MPEP 2143.

Presently, the Examiner has provided no motivation for the combination of the prior art. The Examiner merely stated that the combination of a conventional LTHC for its concomitant function in the thermal transfer sheet would have been an obvious expedient to one of ordinary

skill in the art in the absence of unexpected results. However, a combination is not obvious merely because of the absence of unexpected results. Therefore, the Examiner has failed to demonstrate a motivation for the combination. The Applicant need not provide a showing of unexpected results until the Examiner has established a prima facie case of obviousness. MPEP 2142. To the extent the Examiner is arguing the interchangeability of an LTHC layer and a thermal transfer layer, the interchangeability must be known in the art. The Examiner has failed to demonstrate this, especially in view of the comments below.

The prior art of record do not teach all of the claimed limitations. For example, although Hsieh teaches a permanent yellow, there is no indication that the permanent yellow is an organic pigment having a melting point not less than 320°C. In Hsieh, Permanent Yellow (used in their Example 1) is a general name given for a group of products and it does not specify a molecular structure nor physical properties such as a melting point. The Examiner is not free to assume the presence of this condition in the cited art, absent a supporting teaching in the prior art.

Furthermore, none of Applicant's admitted prior art teaches a light heat conversion layer which converts light to heat disposed on a support, wherein the light-heat conversion layer has an absorbance in the near infrared light region of not less than .5.

For the above reasons, claims 1 and 23 and their dependent claims should be deemed patentable.

## **Claim 2**

The Examiner states that since heat energy is the energy that causes substances to rise in temperature, the concept of heat resistance *inherently* has a "temperature condition".

In relying upon the theory of inherency, the examiner *must* provide a basis in fact and or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art. *Ex parte Levy*, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990).

The Examiner has not provided any factual or technical reasoning in rejecting claim 2. Merely because a substrate may have heat resistance, does not mean that the heat resistance of an image formation layer according to the DIN 54001 standard is not less than 200°C. Furthermore, assuming the claimed heat resistance is taught, the Examiner has provided no motivation for the combination of the heat resistance with the prior art. Therefore, claim 2 should be deemed patentable.

**Claims 17 and 20**

Applicant notes that the Examiner has not replied to Applicant's previous argument with respect to claims 17 and 20. It appears that the Examiner has withdrawn the rejection of claims 17 and 20 in view of Suzuki and Applicant's statement of the prior art.

**Claims 24 and 25**

Applicant further notes that the Examiner has not replied to Applicant's previous argument with respect to claims 24 and 25. Therefore, it appears that the Examiner's rejection of claims 24 and 25 in view of Hsieh and Applicant's statement of the prior art has been withdrawn.

**Claims 4, 6, 18, 19, 21, 23, 26-28**

The Examiner has not established that the elements of claims 4, 6, 18, 19, 21, 23, and 26-28 are taught in the prior art. Furthermore, the Applicant's admitted prior art does not teach the elements of claims 4, 6, 18, 19, 21, 23, and 26-28.

**Claim 26**

The Examiner also states that the pigments of Hsieh inherently function as matting agents and that the presence of particles in the prior art image formation layers *inherently* result in a roughened surface (i.e. some of the particles will protrude above the surface).

Merely because particles protrude does not mean that the surface is roughened as described in the present invention. In addition, it would not necessarily be inherent that pigments function as matting agents. Pigments can for example, function as coloring agents.

Furthermore, in order to establish inherency, the extrinsic evidence must make clear that the missing descriptive matter is necessarily present in the thing described in the reference and that it would be so recognized by persons of ordinary skill. Inherency however, may not be established by probabilities or possibilities. MPEP 2163.07(a).

In relying upon the theory of inherency, the examiner *must* provide a basis in fact and or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art. *Ex parte Levy*, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990).

Merely stating that the pigments of Hsieh inherently function as matting agents and that protrusions result in surface roughness, is not based on fact and technical reasoning. Since the Examiner has provided no reasoning to support the Examiner's conclusions of inherency, claim 26 should be deemed patentable.

***Rejection of claims 1, 4, 17-21 and 23-29 under § 103(a) as  
being unpatentable over Imamura***

The purpose of the present invention is to resolve the physical properties of image formation layers of melt-type transfer sheets. See Applicant's specification at page 1, last full paragraph.

"However, physical properties of the image formation layers, which physical properties are required of the melt-type thermal transfer sheet, are different from those of the sublimation-type thermal transfer sheet in which organic pigments are used in the image formation layers. As a result, the problem that at the time of recording, optical density may decrease and the desired hues cannot be obtained remains unsolved in the melt-type thermal transfer sheets."

On the other hand, Imamura describes a fused ink transfer sheet (col. 6, lines 41-46), an ablation utilizing transfer sheet (col. 6, lines 46-54) and a sublimation dye transfer sheet (col. 6, lines 55-60). Imamura does not pertain to a *melt-type transfer sheet* as taught in the present invention, including the thermal characteristics as described by claims 1 and 23. For at least this reason, the present invention should be deemed patentable in view of Imamura.

**Claim 1**

The Examiner states that Imamura teaches a thermal transfer sheet comprising an image formation layer containing Applicant's pigments and amorphous organic polymers as well as an LTHC layer containing the same materials claimed by Applicant.

Applicant's pigments do not appear to be taught in the prior art. The image formation layer of claim 1 comprises an organic pigment having a melting point not less than 320°C. Examples of such pigments include Y120 (Pigment Yellow 120), Y180 (Pigment Yellow 180),

Y139 (Pigment Yellow 139) and Y155 (Pigment Yellow 155). However, none of these organic pigments are disclosed in Imamura.

Imamura discloses an image formation layer including Hanza Yellow G, Hanza Yellow 5 G, Hanza Yellow 10 G, Hanza Yellow A, Pigment Yellow L, Permanent Yellow NCG, Permanent Yellow FGL and Permanent Yellow HR. Imamura does not appear to disclose the organic pigment having a melting point not less than 320°C as described in claim 1.

The Examiner also states that the experimental modification of Imamura in order to ascertain optimum operating conditions fails to render Applicant's claims patentable in the absence of unexpected results.

As previously indicated, an Applicant does not have to demonstrate a showing of unexpected results when the Examiner has failed to establish a prima facie case of obviousness. Presently, the Examiner has failed to teach the pigment of claim 1. Assuming the claimed pigment was taught in Imamura, the Examiner has provided no motivation for the combination of the claimed elements with the prior art. Therefore, claims 1 and 23 and their dependent claims, should be deemed patentable.

#### **Claim 20**

Claim 20 describes that the back coat is provided on a support opposite the heat conversion layer wherein the back coat imparts stability at the time of movement, heat resistance, and anti-static properties.

The Examiner has not established where the back coat of claim 20 is taught in Imamura. At most, Imamura teaches an undercoat layer to enhance a bonding strength between the support sheet and the light-heat conversion layer. Col. 7, line 11-17. Since the undercoat layer of

Imamura does not impart stability at the time of movement, heat resistance and anti-static properties, claim 20 should be deemed patentable.

**Claims 26 and 27**

The Examiner has not established where the matting agent of claims 26 and 27 are taught in the prior art. In particular, it does not appear that Imamura teaches a matting agent. Therefore, claims 26 and 27 should be deemed patentable.

**Claim 29**

It appears that the Examiner is citing the intermediate layer of Imamura (col. 14, lines 62-65 for teaching the cushion layer of claim 29. However, there is no indication that the intermediate layer of Imamura is roughened, let alone that the roughness is .3 to 10 $\mu$ m. Therefore, claim 29 should be deemed patentable.

***Rejection of claims 2 and 6 under § 103(a) as being unpatentable  
over Imamura in view of Yamaguchi***

The Examiner states Yamaguchi teaches the result - affectivity of the heat - resistance of image formation layers on a thermal transfer sheet. Consequently, determining the optimum heat resistance of the Imamura image formation layer would have been obvious to one of ordinary skill in the art in the absence of unexpected results.

Yamaguchi specifies melting points of the resins and the plasticizers in order to improve heat resistance and wash resistance. Yamaguchi also uses carbon-black which is an inorganic pigment. In the present invention, however, the melting points of the pigments are specified to avoid thermal decomposition of the organic pigments.



Assuming Yamaguchi teaches the affectivity of the heat, Yamaguchi does not teach that the heat resistance of the image formation layer according to the DIN 54001 standard is not less than 200°C.

Furthermore, the Applicant need not demonstrate unexpected results, unless the Examiner has established a prima facie case of obviousness. As indicated above, Imamura and Yamaguchi do not teach the claimed elements. Since the Examiner has not established obviousness, Applicant need not demonstrate unexpected results. Therefore, claims 2 and 6 should be deemed patentable.

Applicant has added claim 30 to provide a more varied scope of protection.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

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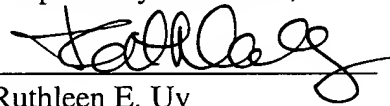
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